

ABSTRACT OF THE INVENTION

Methods and apparatus are provided for abrading a work piece. The apparatus has two support members to which a carriage member is slidably mounted. A vertical drive mechanism moves the carriage member in a vertical direction. A spindle is supported by the carriage member, has a longitudinal channel, and is configured to rotate about a central axis. The apparatus also has an upper abrading wheel having a first working surface and a lower abrading wheel having a second working surface. The second working surface is parallel to and in vertical opposition to the first working surface. The upper abrading wheel comprises a plurality of conduits, each having a first orifice and a second orifice. The first orifices of the conduits are disposed at the first working surface and the second orifices are in fluid communication with the longitudinal channel of the spindle.